

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-26. (Canceled)

27. (Previously presented) A method of producing and secreting insulin in a subject in vivo, the method comprising introducing into the subject an intermediate lobe pituitary cell that is capable of storing and secreting insulin and comprises a nucleic acid sequence encoding insulin, the nucleic acid sequence being operatively linked to a heterologous promoter that directs expression of the nucleic acid sequence in the intermediate lobe pituitary cell, thereby producing and secreting insulin in said subject.

28-29. (Canceled)

30. (Previously presented) The method of claim 27, wherein said intermediate lobe pituitary cell is an autologous cell.

31. (Previously presented) The method of claim 27, wherein said subject is a human and the intermediate lobe pituitary cell is an autologous cell.

32-59. (Canceled)

60. (Previously presented) The method of claim 27, wherein said intermediate lobe pituitary cell is an allogeneic cell.

61.-73. (Canceled)

74. (Previously presented) The method of claim 27, wherein said promoter is a pro-opiomelanocortin (POMC) promoter.

75-78. (Canceled)

79. (Previously presented) The method of claim 27, wherein said intermediate lobe pituitary cell is a fetal or post natal cell.

80. (Previously presented) The method of claim 27, wherein said subject is a human.

81. (Previously presented) The method of claim 27, wherein said intermediate lobe pituitary cell is a cultured cell.

82. (Previously presented) The method of claim 81, wherein said cultured cell is a cultured human cell.

83-85. (Canceled)

86. (Previously presented) The method of claim 27, further comprising the step of administering an immunosuppressant to the subject.